



EVIDÊNCIAS PRÉ-CLÍNICAS DA ATIVIDADE CICATRIZANTE GÁSTRICA DA HESPERIDINA: UM FLAVONOIDE DE FRUTAS CÍTRICAS

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INTRODUCTION

The flavonoid hesperidin is clinically used for the treatment of vascular diseases and abundantly found in citrus fruits. Studies with this flavonoid in acute ulcer models were already performed by using stress or ethanol, however, indomethacin-induced ulcer showed controversy results. Thus, given the clinical use of hesperidin and the results already assessed, this study aims to evaluate the effect of hesperidin (1 - 10mg/kg, v.o) on gastric ulcers induced by acetic acid in rats, considered the experimental model that most resembles human pathology.

MATERIAL AND METHODS

In parallel, the oxidative state of the gastric mucosa was also measured by the analysis of reduced glutathione (GSH) and lipoperoxide levels and antioxidant enzymatic activity.

RESULTS

In the results, administration of hesperidin at doses of 3 and 10 mg/kg, once a day, accelerated by 34 and 62%, respectively, the healing of the ulcer compared to vehicle group ($99.1 \pm 6.4 \text{ mm}^2$). Histological and histochemistry analyses confirmed the healing effect with significant favoring of mucin production. The effect elicited by hesperidin at a dose of 3 mg/kg (p.o) was accompanied by the preservation of GSH levels in the gastric mucosa, as well as the normalization of superoxide dismutase and catalase at similar levels to those found in the non-ulcerated group. In addition, flavonoid administration increased the enzymatic activity of glutathione-S-transferase by 35%, occurring with the vehicle-use group ($46.7 \pm 9.4 \text{ mmol/min/mg protein}$). Tissue lipoperoxides and the *in vivo* and *in vitro* activity of myeloperoxidase enzyme were reduced after hesperidin treatment.

CONCLUSIONS

In conclusion, the flavonoid hesperidin has gastric healing activity in the existing mucosa and this effect is favored by the reduction of oxidative damage to the mucosa, as a consequence of the reduction of the neutrophil migration and the strengthening of the protective barrier of mucus next to the mucosa.

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